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ABSTRACT

A study to determine the relationship of a teacher's characteristics and experience to a learner's cognitive attainment of law-related content is discussed. Over 1,000 learners and 57 teachers who had participated in a Law in a Changing Society Workshop provided data for the study. The workshop provided participants with law-related materials and instructional techniques for standard social studies curricula at various grade levels. Classroom sets of data covered five subject areas: fifth grade United States History, seventh grade Texas Studies, eighth grade American History I, ninth through 11th grade American History II, and 12th grade Civics. Control groups were comprised of classes with teachers who neither attended the workshop nor received law-focused materials. Instruments for both teachers and students contained affective and cognitive items. Results indicate that differences among teachers regarding content knowledge, instructional skills, and teaching experience result in cognitive attainment differences among classes of learners. However, the effect of the individual teacher is more pronounced in the upper grades. (KC)

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DO TEACHERS MAKE A DIFFERENCE IN TEACHING LAW RELATED TOPICS IN SOCIAL STUDIES?

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Do Teachers Make a Difference in Teaching Law Related Topics in Social Studies?

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Precepts from teacher effectiveness research and educational policy research were combined in this investigation to produce three conceptual models of teacher effectiveness. These models were used as a basis for determining the influence of teachers on learner attainment of law related content. Regression solutions for these three models were performed for five subsamples and for the total sample of 1,111 learners and 57 teachers. Comparisons of the solutions to the various regression models yielded results which indicate that characteristics of teachers do exert substantial classroom influence on the cognitive attainment of law related content by learners.

Running Head: Do teachers ...

Teachers and instructional design specialists are confident that knowledge, understanding and attitude toward the law are enhanced if learners identify with legal issues through simulations, case studies, and first-hand observations of the legal system. To this end, a variety of instructional techniques, namely, critical incident, police ride-along, mock trial, case study, have been developed and sequenced into instructional strategies to teach the various components of a law focused curriculum. While the literature on law-focused education is expanding rapidly, little empirical documentation has appeared to confirm the value of various law related curricula and the effectiveness of teachers in implementing these curricula. Our efforts have been directed primarily to the influence of the teacher in implementing a curriculum, assuming the law-related content and instructional strategies designed for the curriculum are sound.

Theoretical Considerations

The Equality of Educational Opportunity Survey, commonly known as the Coleman Report (Coleman, Campbell, Hobson, McPartland, Mood, Weinfield, York, 1966), has had a marked impact on education. For example, the report indicated that variables contributing most to the variance in learner achievement in descending order were: home environment, student body characteristics, teacher characteristics, and finally school facilities and curriculum. To be sure, these findings produced a maelstorm of controversy regarding the limited significance of the formal educational enterprise on learner achievement and other forms of student outcomes typically associated with the public schools. Yet, the report did stimulate thought and public arousal that focused directly on the effectiveness of teachers, curriculum, and schools in fostering learning.

Within the research community, subsequent analyses of the Coleman Report data provided additional interesting findings, such as, teacher experience positively influences student achievement and the race of the teacher influences cognitive verbal achievement (Hanusehek, 1972). An equally important consequence of these secondary analyses was the development of conceptual models for documenting the educational process. Typically, these model building efforts were constructed to explain an individual's educational achievement in terms of the following factors: individual and family characteristics, peer group influences, genetic endowment, school resources, study attitudes (Barro, 1970; Hanusehek, 1972).

Sampling designs, constructed to provide empirical data for testing the accuracy of these model building efforts, were, in most instances, initially structured to yield results that centered almost exclusively on district level parameters for learning outcomes. Hence, these designs and their corresponding data collection strategies did not specifically address teacher and learner behaviors in individual classrooms.

A second difficulty encountered in early attempts to demonstrate the value of these conceptual models was the selection of an appropriate statistical model for data analysis. Multiple regression techniques, which were employed in similar model building efforts in agriculture, economics and engineering, often produced biased and inconsistent estimates when applied to empirical data from the schools. The primary reason for inaccurate estimates was determined to be the high interrelationships among educational process variables, which is known as the multicollinearity problem in statistical analysis.

In recent studies, considerable progress has been made to eliminate

research design problems encountered in earlier developmental efforts. The estimation problem was resolved by specifying the educational process variables as a system of simultaneous equations that would lead to more accurate parameter estimates for the already known high correlations among independent process variables (Sewell, Mauser and Featherman, 1976; Cooley and Lohnes, 1976). Murnane (1975), McDonald (1977) and McNamara (1977) have also significantly extended sampling designs and their corresponding data requirements to model explicitly intraschool and interclass variables. Hence, they provide a more direct measure of the influence of the teachers and the curriculum on the achievement of learners. However, the specification of classroom instructional events in this area of research continues to be more of a goal than a reality.

Ironically, a complementary body of educational research generally termed, teacher effectiveness, has concentrated on the development and refinement of process and product variables associated with classroom instruction. Extensive reviews of research on teacher effectiveness have compiled the various results of classroom observation investigations into lists of factors, such as, learner time on task, businesslike manner of teacher, and teacher enthusiasm, which positively influence learner achievement (Brophy, Good, 1974; Brophy, Evertson, 1976; Medley, 1977; Rosenshine, 1977; Rosenshine, Furst, 1971). Unfortunately, investigations on teacher effectiveness have seldom been based on an overall mathematical model or framework to guide the selection of teacher and learner behaviors to be measured. Moreover, few investigations have provided a rationale for the kinds of teacher behavior they assessed, and even fewer demonstrated an interest in the causal sequences of behavior that were possible prerequisites to the single variable they did measure (Borich and Fenton, 1977).

This investigation has attempted to combine the strengths of the aforementioned lines of research (conceptual models and specific teacher variables). To this end, the following primary hypothesis has been developed.

1. The effect of a single academic course on a learner's cognitive attainment of law related content depends on the classroom to which a learner is assigned.

If significant differences do exist among classrooms, then attempts to identify teacher related variables that are good predictors of learner cognitive growth are in order. Accordingly, the secondary hypothesis takes the following form.

2. The effect of a single academic course on a learner's cognitive attainment of law related content depends on the teacher's characteristics and experience within a given classroom to which the learner is assigned.

Research Design

Setting. A series of law-focused education workshops were conducted at several locations over the state of Texas during the past three years. While informal evaluations of the initial workshops were very favorable, sponsors of the workshops (Criminal Justice Division, Office of the Governor; and the Texas State Bar Association) encouraged the development and implementation of a formal evaluation plan. This plan included the collection of cognitive achievement and attitudinal data from workshop participants and the subsequent collection of cognitive and attitudinal data from their pupils during the ensuing school year. Such a plan was developed and implemented, resulting in the formation of a substantial data base from teachers and their students on law related concepts and principles.

Sample. A total of 1,111 learners and 57 teachers provided data for this investigation. Teachers who had participated in a Law in a Changing Society Workshop and one of their classes were selected randomly from the total workshop enrollment to participate in the

subsequent evaluation. The workshops provided participants with law related materials and instructional techniques for standard social studies curricula at various grade levels. Two concomitant teachers and their classes were identified for each workshop participant, one as a "partner" teacher with whom the participant shared ideas and materials and another teacher and class who served as a control. The control teacher did not attend the workshop nor was s/he provided access to law-focused curricular materials. These procedures resulted in complete classroom sets of data from social studies teachers across five subject areas, i.e., Fifth grade-U.S. History (25 teachers, 485 learners), Seventh grade-Texas Studies (6 teachers, 124 learners), Eighth grade American History I (8 teachers, 143 learners), Ninth-eleventh grade-American History II (10 teachers, 195 learners), and Twelfth grade-Civics (8 teachers, 164 learners).

Teacher Measures. Two instruments were developed to obtain cognitive and attitudinal data from teachers on law related concepts and principles. One of these measures was designed for elementary and middle school teachers (grades 5-8), while the second test was developed for senior high teachers (grades 9-12). Both instruments contained 20 identical attitude items and 25 multiple choice cognitive items which were different for each instrument. Estimates of internal consistency were determined to range from .73 to .87 for the cognitive components of these instruments with the Kuder Richardson-20 procedure. Further, each instrument was reviewed for content validity with respect to law-related concepts by a panel of university professors and the law focused workshop staff. Additional data from each teacher (experience, workshop participation, school assignment) were obtained from biographic sheets attached to each of the aforementioned tests.

Learner Measures. Five instruments were developed to obtain cognitive and attitudinal data from pupils of teachers participating in the law-focused education project. The instruments were developed for the different grade levels, that is, 5th, 7th, 8th, 9-11th, 12th. Each of the tests contained a cognitive component consisting of 20 multiple-choice items and an attitude component containing 20 items. The cognitive items of the various tests emphasized law topics related to social studies curricula at various grade levels, namely, U.S. History (grade 5), Texas Studies (grade 7), American History I (grade 8), American History II (grade 9 or 11), and Civics (grade 12). The attitude component of each instrument contained 10 Likert type items on law-related issues and 10 items seeking learner perceptions of the classroom practices of the teacher. Copies of these instruments are provided elsewhere (Denton, Kracht, 1977).

Each instrument was reviewed by a panel of judges consisting of classroom teachers, workshop staff, and university professors to determine the instruments' content validity, and readability. Estimates of internal consistency for the cognitive component of each instrument were determined using the Kuder Richardson-20 formula. These values ranged form .61 to .78 with the 5th grade test providing the highest value.

The development and use of instruments specifically designed to measure cognitive attainment of law-related topics is a departure from the more common and oft criticized practice of drawing achievement data from standardized tests. Construction of these instruments was necessary since achievement tests that were available simply did not measure the concepts and principles espoused in the law-focused education workshops and materials.

Model Design. Our hypotheses regarding learner outcomes resulted in the specification of educational process and individual student variables as a system of three linear structural equations. To satisfy estimation requirements, each structural equation takes the form of a regression model. The three multiple linear regression models are presented in figure 1. Each model reflects a specific aspect of the set of hypothesized relations.

In model 1, learner cognitive attainment of law related content at the end of a course depends on the learners' prior knowledge of and attitudes toward law related content. Inherent to this regression model is the assumption that the effect of a course is independent of the classroom and the teacher to which the learners are assigned.

Model 2 presents end of course cognitive attainment of law related content by learners as a function of the classroom in which the learners spent the course as well as their prior knowledge of law related content and attitudes held toward that content. Underlying this model is the assumption that the effect of an academic course *also* depends on the classroom to which learners are assigned.

In model 3, learner cognitive attainment of law related content at the end of a course depends on the characteristics and background of the teacher to which the learner is assigned as well as the student influences specified in model 1. Hence, this model differs from model 1 in that it assumes additional factors to determine the effect of an academic course on learner outcomes are the teachers and their individual characteristics. Model 3 also differs from model 2. Specifically, model 2 captures the total influence of classrooms on learner gain, but does *not* isolate the influence of any individual factors such as teaching

experience or classroom practices.

Testing hypotheses. The primary and secondary hypotheses are tested by comparing the explanatory power (multiple r-squared values) determined for each of the three regression models. These comparisons take the form of standard F-tests which are described in figure 1. The logic underlying each test can be described in terms of the r-squared values estimated for each structural equation.

To test the primary hypothesis we compare models 1 and 2. If the observations are consistent with our hypothesis, then the explanatory power of model 2 should reflect a significant increase over the explanatory power of model 1. As noted in figure 1, model 1 does not take into account the influence of classroom assignment.

To test the secondary hypothesis, we compare models 1 and 3. If the observations are consistent with the secondary hypothesis, then the explanatory power of model 3 should exhibit a significant gain over the explanatory power of model 1.

Our sampling plan permits several tests for both hypotheses. Specifically, the regression models are compared first with respect to each grade classification. Hence, our research design not only allows us to test if the hypothesized relationships are likely to be consistent over all grade levels, but also provide us with empirical evidence to estimate more precisely the magnitude of these explanatory differences at each grade level.

Findings

Primary Hypothesis. The F-test results (see Table 1) corresponding to the tests of H(P) are all statistically significant beyond the 0.01 probability level. These empirical results clearly support the position

that quality differences do exist among classrooms. Moreover, these contributions are unique in that they do not result if we attempt to predict learner outcomes without knowledge of the classroom to which each was assigned.

Secondary Hypothesis. The secondary hypothesis addressed the issue of whether characteristics of the teacher would account for some of the differences in cognitive attainment of law related content among middle school through senior high school learners. The F-test results for H(S) in Table 1 are also all significant beyond the 0.01 probability level. These findings are consistent with our hypothesis that teacher characteristics and experience identify an important contribution to learner outcomes that cannot be predicted when we fail to link students with their actual assigned teachers.

Classroom Differences. An examination of the structural equations provides additional information to describe the estimated magnitudes of difference at each grade level. The total unique influence of classroom assignment can be obtained by subtracting model 1 results from those determined for model 2. These differences appear in Table 1 denoted as the letter A. Careful examination of these model differences reveals a trend whereby the differences decrease as the grade level increases. These differences range from a high estimate of 47.1 percent of the variance at grade five to a minimum estimate of 11.8 percent at grade 12.

Teacher Differences. Estimates for the contributions of teacher-related variables on learner cognitive attainment can be obtained for each grade level classification by subtracting model 1 results from e presented for model three. These differences appear in Table 1

denoted by the letter B. In this case, the differences suggest a relatively stable and consistent teacher influence at all grade levels. These estimates range from a high of 20.8% of the variance in the grade seven sample to a minimum of 10.6% of the variance in the grade 12 sample.

Teacher Influences. A comparison of the ratios between teacher and classroom explanatory power estimate (C) in table 2 reveal yet another important but frequently overlooked relationship. While the largest total classroom estimates are found for the lower grades, the ratio of teacher influence to total influence at each grade level suggests a relationship with the largest relative value appearing in the grade 12 sample where it shares approximately 90 percent of the total variance associated with classrooms.

Discussion

Our findings clearly indicate that differences do occur among social studies classrooms regarding learner cognitive attainment of law related content. While there are many reasons why classrooms differ, we have assumed teacher influence to be an important source of these differences. In particular, teacher characteristics of: workshop participation, teaching experience, knowledge of content, and classroom practices were examined to determine their collective effect on learner cognitive attainment of law related content.

The supervisory notion of providing inservice programs to modify teacher behavior and enhance learner achievement assumes teachers transfer knowledges and skills gained from workshops to their classrooms. Further, teacher effectiveness research has documented relations do exist between various classroom behaviors of teachers and learner achievement (Brophy, Good, 1974; Brophy, Everston, 1976; Medley, 1977; Rosenshine, 1977). Because of these notions and research findings, participation in a law-focused workshop was included in the block of teacher variables.

Similarly, investigations by Murnane (1975) and McNamara (1977), found significant relations between teaching experience and learner achievement; and the previously cited literature on teacher effectiveness is replete with relations between various teacher process variables and learner achievement. Thus, teaching experience and classroom practices have precedents in the literature justifying their inclusion in the block of teacher variables. Conversely, the relation between learner achievement and teacher knowledge of subject matter has seldom been addressed. Thus, teacher content knowledge as a construct in a model for teaching effectiveness may account for unexplained variation in the instructional process. Moreover, inclusion of this variable in a theoretical model of teacher effectiveness is compatible with regression techniques.

It is evident these teacher variables do influence learner cognitive attainment of law related content. This generalization is based on the explanatory power of the teacher variables (B Values in table 1) and, the ratios comparing the explanatory power of these teacher characteristics with classroom assignments (C values in table 1). In particular, the ratio values indicate the influence of the teacher contributes substantially, across all grade levels, to the differences among classrooms regarding learner cognitive attainment. In other words, differences among teachers regarding content knowledge, instructional skills, and teaching experience do, in fact, result in cognitive attainment differences among classes of learners. This generalization which is so logical and self-evident to educators, has often eluded those concerned with empirical verification. The aforementioned ratios do lend credence, in empirical terms, to the influence of the teacher on learner cognitive attainment. Further, these results indicate the effect of the individual teacher is more pronounced in the upper grades regarding cognitive attainment of course specific content.

Ironically, this finding would not be so evident had the analysis been conducted only on the total sample, where only 10 percent of the explanatory power is common to teacher characteristics and classroom assignment. For this reason, we encourage the disaggregation of data into subsamples by grade level when examining the influence of teachers on the cognitive attainment of learners.

Certainly this investigation has not exhausted the potential teacher characteristics which could be considered as teacher variables. The teacher's age, sex, educational background and race are but a few of the more obvious characteristics which could be included in future researches. Given these additional teacher variables and attention to grade levels, perhaps new insights into theory building for determining teacher effectiveness is near at hand. In closing, the results of our investigation do enable us to answer the question posed in the title of the paper with an encouraging YES, TEACHERS DO MAKE A DIFFERENCE IN TEACHING LAW RELATED CONTENT. Moreover, this difference can be observed at all grade levels where law focused education is introduced in the social studies curriculum.

References

Barro, S. M. An Approach to developing accountability measures for the public schools. Phi Delta Kappan 1970, 52, 196-205.

Borich, G. G., Fenton, K. S. (Eds). The appraisal of teaching: concepts and process. Reading, Mass: Addison-Wesley Publishing Co. 1977, Chp 7.

Brophy, J. E., Good, T. L. Teacher-student relationships: causes and consequences. New York: Holt, Rinehart and Winston, 1974.

Brophy, J. E. Evertson, C. M. Learning from teaching a developmental perspective. Boston: Allyn and Bacon, Inc., 1976.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F., York, R. L. Equality of educational opportunity. Office of Education National Center of Educational Statistics, Washington D. C., U. S. Government Printing.

Cooley, W. W., Lohnes, P. R. Evaluation research in education. New York: Halsted Press, 1976.

Denton, J. J., Kracht, J. B. Final evaluation report of teacher training projects sponsored by law in a changing society. College Station, Tx. 1976 (ERIC Document Reproduction Service No. ED 146 067).

Hanushek, E A. Education and race. Lexington, Mass: D. C. Heath & Co., 1972.

McDonald, F. J. Research on teaching: report on phase II of the beginning teacher evaluation study. G. D. Borich and K. S. Fenton (Eds). The appraisal of teaching: concepts and process. Reading, Mass.: Addison-Wesley Publishing Co., 1977.

McNamara, J. F. The impact of the Singleton Ratio Plan on assignments and learning outcomes in HISD elementary schools. Board of Education, Houston Independent School District, December 1977.

Medley, D. M. Teacher competence and teacher effectiveness a review of process-product research. Washington D. C.: American Association of Colleges for Teacher Education, August 1977.

Murnane, R. J. The impact of school resources on the learning of inner city children. Cambridge, Mass.: Ballinger Publishing Co., 1975.

Rosenshine, B. Review of teaching variables and student achievement. G. D. Borich and K. S. Fenton (Eds). The appraisal of teaching: concepts and process. Reading, Mass: Addison-Wesley Publishing Co. 1977.

Rosenshine, B., Furst, N. Research in teacher performance criteria. B. O. Smith (Ed). Research in teacher education: a symposium. Englewood Cliffs, N. J.: Prentice-Hill, Inc. 1971.

Sewell, W. H., Hauser, R. M., Featherman, D. L. (Eds.). Schooling and achievement in American society. New York: Academic Press, 1976.

Table 1

Summary of Information For Structural Equations

TEST LEGEND	Composite of all Grades	Grade 5	Grade 7	Grade 8	Grade 9/11	Grade 12
Number of learners	1111	485	124	143	195	164
Number of Classrooms	57	25	6	8	10	8
No. of Teacher Variables	6	6	6	6	6	6
R^2 from model 1	.088	.108	.283	.134	.251	.136
R^2 from model 2	.532	.579	.561	.394	.409	.254
R^2 from model 3	.134	.274	.491	.301	.369	.242
F statistic testing H(P)	F(56,1052)	F(24,457)	F(5,117)	F(7,134)	F(9,184)	F(7,155)
	17.82*	21.30*	14.82*	8.21*	5.47*	3.50*
F statistic testing H(S)	F(5,1102)	F(5,476)	F(5,115)	F(5,134)	F(5,186)	F(5,155)
	11.71*	21.76*	9.40*	6.40*	6.96*	4.34*
$A = R_2^2 - R_1^2$		.471	.278	.260	.158	.118
$B = R_3^2 - R_1^2$		.166	.208	.167	.118	.106
$C = B \div A$		.352	.748	.642	.747	.898

*$\alpha < .01$

Model 1: $y_2 = b_1 y_1 + b_2 A_t + a + E(1)$

Model 2: $y_2 = b_1 y_1 + b_2 A_t + \sum_{j=1}^{m} c_j C_j + E(2)$

Model 3: $Y_2 = b_1 y_1 + b_c A_t + \sum_{j=1}^{p} t_j T_j + E(3)$

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y_2 = end of course cognitive score of learner on law-related material.

y_1 = beginning of course cognitive score of learner on law-related material

A_t = beginning of course learner attitudes toward law-related concepts.

C_j = 1 if the learner was assigned to a classroom j; zero otherwise.

a = effect of a single academic course on learner achievement.

b_i = least square weight associated with first two variables.

c_j = least squares weight associated with each C_j

T_1 = 1 if the learner's teacher participated as a "partner" teacher, zero otherwise.

T_2 = 1 if learner's teacher participated as a "partner" teacher, zero otherwise.

T_3 = 1 if the learner's teacher served as a control teacher, zero otherwise.

T_4 = Teaching experience of learner's teacher.

T_5 = beginning of course cognitive test score of teacher on law related material.

T_6 = end-of-course learner perceptions of teacher's classroom practices.

t_j = least squares weight associated with each T_j.

m = the number of classroom variables in the model.

p = the number of teacher variables in the model.

N = the number of learners in the model.

E(i) = the error-of-prediction vector for model i.

$R_i 2$ = coefficient of determination for model i (proportion of variance accounted for by model i).

F Tests for Primary and Secondary Hypotheses

$$H(P)F = \frac{[R_2^2 - R_1^2]/df(1)}{[1 - R_2^2]/df(2)} \qquad df(1) = (m+2)-3 \qquad df(2) = N-(m+2)-1$$

$$H(S)F = \frac{[R_3^2 - R_1^2]/df(3)}{[1 - R_3^2]/df(4)} \qquad df(3) = (p+2)-3 \qquad df(4) = N-(p+2)-1$$

Figure 1

Regression models and F statistics